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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,911	09/04/2003	Jeffery A. Whiteford	40-003300US	8639
22798	7590	04/27/2009	EXAMINER	
QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C. P O BOX 458 ALAMEDA, CA 94501			THOMPSON, CAMIE S	
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
04/27/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/656,911	<b>Applicant(s)</b> WHITEFORD ET AL.
	<b>Examiner</b> Camie S. Thompson	<b>Art Unit</b> 1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on Amendment filed 1/13/09.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 19-39, 42 and 68 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 19-39, 42 and 68 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. Applicant's amendment and accompanying remarks filed January 13, 2009 are acknowledged.
2. Examiner acknowledges amended claims 19 and 33.
3. Examiner acknowledges cancelled claims 1-18, 0-41 and 43-67.
4. Examiner acknowledges newly added claim 68.
5. The rejection of claims 19-39 and 42 under 35 U.S.C 112, first paragraph is overcome by applicant's amendment.
6. The rejection of claims 19-21, 23-27 and 30-35 under 35 U.S.C. 102(b) as being anticipated by Colvin et al., Semiconductor Nanocrystals Covalently Bound to Metal Surfaces with Self-Assembled Monolayers, J. of American Chemical Society, 1992, 114, pp. 5221-5230 is overcome by applicant's amendment.

*Claim Rejections - 35 USC § 112*

7. Claims 19-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 19 recites the limitation "member" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 37-39, 42 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lieber et al., U.S. Patent Number 7,211,464.

Lieber discloses highly ordered nanowire structures wherein the longitudinal axes of the structures are disposed parallel to the surface of a substrate (see column 12, lines 65-65 and column 15, lines 49-68). It is disclosed in column 17, lines 36-60 of the reference a plurality of elongated nanostructure clusters wherein at least one of the plurality of elongated nanostructure clusters is dispersed in a matrix so as to align the structure in the direction parallel to the surface of the substrate. Figures 33A and 33B of the reference disclose nanowires that can be crosswires which can be perpendicular to the surface of the substrate. Although the matrix is removed, the reference does disclose that the matrix is induced with a magnetic force in order to stretch the nanostructure clusters in the direction of the surface of the substrate. The reference discloses that the matrix is flexible and stretched along with the nanostructure clusters. It would have been obvious to one of ordinary skill in the art to maintain the nanostructure clusters in the matrix in order to keep the nanostructure cluster aligned on the surface of the substrate since the matrix can be stretched magnetically to the surface of the substrate.

***Response to Arguments***

10. Applicant's arguments filed January 13, 2009 have been fully considered but they are not persuasive. Applicant argues that Lieber discloses removing the flexible matrix. Although Lieber discusses removing the flexible matrix, the flexible matrix is present as an intermediate product. The intermediate product of Lieber comprises highly ordered nanowire structures wherein the longitudinal axes of the structures are disposed parallel to the surface of a substrate wherein a plurality of elongated nanostructure clusters wherein at least one of the plurality of elongated nanostructure clusters is dispersed in a matrix so as to align the structure in the direction parallel to the surface of the substrate as required by the present claims.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camie S. Thompson whose telephone number is 571-272-1530. The examiner can normally be reached on Monday-Friday 8:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1794

Camie S Thompson  
Examiner  
Art Unit 1794